UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,121	02/13/2002	Thomas Bolt	Q02-1031-US1	7279

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Robert A Saltzberg
MORRISON & FOERSTER LLP
425 Market Street
San Francisco, CA 94105

EXAMINER
PATEL, NIMESH G

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/075,121	BOLT ET AL.
	Examiner	Art Unit
	Nimesh G Patel	2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 1-2, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jacobs('788), in view of what is well known in the art.

4.   Regarding claim 1, Jacobs discloses a USB system for data communication between a

processor and IDE devices, comprising: a plurality of IDE devices(Column 5; Lines 29-33); a

USB-to-IDE bridge(Figure 5, 156), wherein the IDE devices are connected to the USB-to-IDE

bridge; and a USB controller(Figure 5, 130), wherein the USB-to-IDE bridge is connected to the

USB controller, whereby the processor can communicate with the IDE devices via the USB

controller.

Jacobs does not specifically disclose a plurality of USB-to-IDE bridges, wherein each

IDE device is connected to a respective USB-to-IDE bridge. However, OFFICIAL NOTICE is

being taken that using multiple bridges is well known in that art to increase the number of

devices connected. Further, as evidence, Burke et al.('478) discloses multiple bridges to connect multiple devices(Figure 1). Therefore, it would have been obvious to use a plurality of USB-to-IDE bridges in the system of Jacobs since this would allow more IDE devices to be connected in Jacobs' USB system. Therefore claim 1 is rejected.

5.   Regarding claim 2, Jacobs discloses a system, wherein at least one of the IDE devices comprises a hard disk drive(Column 3, Lines 55-57).

6.   Regarding claim 10, Jacobs discloses a method for connecting multiple IDE devices to a processor for data communication(Column 5; Lines 29-33), comprising the steps of: providing a USB-to-IDE bridge(Figure 5, 156); connecting the IDE device to the USB-to-IDE bridge; providing a USB controller(Figure 5, 130); and connecting the USB-to-IDE bridge to the USB controller, whereby the processor can communicate with the IDE devices via the USB controller.

Jacobs does not specifically disclose a plurality of USB-to-IDE bridges, wherein each IDE device is connected to a respective USB-to-IDE bridge. However, OFFICIAL NOTICE is being taken that using multiple bridges is well known in that art to increase the number of devices connected. Further, as evidence, Burke et al.('478) discloses multiple bridges to connect multiple devices(Figure 1). Therefore, it would have been obvious to use a plurality of USB-to-IDE bridges in the system of Jacobs since this would allow more IDE devices to be connected in Jacobs' USB system. Therefore claim 10 is rejected.

7.   Regarding claim 11, Jacobs discloses a method, wherein at least one of the IDE devices comprises a hard disk drive(Column 3, Lines 55-57).

8.   Regarding claim 18, Jacobs discloses a data storage system, comprising: a plurality of IDE storage devices(Column 5; Lines 29-33); a USB-to-IDE bridge(Figure 5, 156), wherein each IDE storage device is connected to the USB-to-IDE bridge; and a USB controller(Figure 5, 130),

wherein the USB-to-IDE bridge is connected to the USB controller, whereby the processor can communicate with the IDE storage devices via the USB controller.

Jacobs does not specifically disclose a plurality of USB-to-IDE bridges, wherein each IDE device is connected to a respective USB-to-IDE bridge. However, OFFICIAL NOTICE is being taken that using multiple bridges is well known in that art to increase the number of devices connected. Further, as evidence, Burke et al.('478) discloses multiple bridges to connect multiple devices(Figure 1). Therefore, it would have been obvious to use a plurality of USB-to-IDE bridges in the system of Jacobs since this would allow more IDE devices to be connected in Jacobs' USB system. Therefore claim 18 is rejected.

9.   Regarding claim 19, Jacobs discloses a data storage system, further comprising a carrier for each IDE data storage device, such that each IDE disk drive and corresponding USB-to-IDE bridge are stored in the respective carrier(Figure 6, 160).

10.   Claims 3, 7, 15, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs in view of the USB Specification 2.0.

11.   Regarding claim 3, Jacobs does not specifically disclose a system, further comprising one or more USB hubs, each USB hub connected between two or more USB-to-IDE bridges and a USB controller. However the USB specification discloses a system further comprising one or more USB hubs(Section 4.8.2.1; Figure 4-4). Therefore, it would have been obvious to use multiple hubs, as disclosed in the USB specification, in the system of Jacobs, since this would increase the number of available ports to be used by devices.

12.   Regarding claim 7, Jacobs does not specifically disclose a system, further comprising at least one USB hub connected between a number of the USB-to-IDE bridges and one of the USB controllers. However the USB specification discloses a system further comprising one or more USB hubs(Section 4.8.2.1; Figure 4-4). Therefore, it would have been obvious to use

multiple hubs, as disclosed in the USB specification, in the system of Jacobs, since this would increase the number of available ports to be used by devices.

13.   Regarding claim 15, Jacobs does not specifically disclose a method further comprising the steps of: providing at least one USB hub; connecting each hub to a USB controller; and connecting two or more USB-to-IDE controllers to each hub, such that each hub is connected between a USB controller and two or more USB-to-IDE controllers. However the USB specification discloses a system further comprising one or more USB hubs(Section 4.8.2.1; Figure 4-4). Therefore, it would have been obvious to use multiple hubs, as disclosed in the USB specification, in the system of Jacobs, since this would increase the number of available ports to be used by devices.

14.   Regarding claim 22, Jacobs does not specifically disclose a system, further comprising at least one USB hub connected between a number of the USB-to-IDE bridges and one of the USB controllers. However the USB specification discloses a system further comprising one or more USB hubs(Section 4.8.2.1; Figure 4-4). Therefore, it would have been obvious to use multiple hubs, as disclosed in the USB specification, in the system of Jacobs, since this would increase the number of available ports to be used by devices.

15.   Regarding claim 23, Jacobs does not specifically disclose a system, further comprising one or more USB hubs, each USB hub connected between two or more USB-to-IDE bridges and a USB controller. However the USB specification discloses a system further comprising one or more USB hubs(Section 4.8.2.1; Figure 4-4). Therefore, it would have been obvious to use multiple hubs, as disclosed in the USB specification, in the system of Jacobs, since this would increase the number of available ports to be used by devices.

16.   Claims 4-6, 9, 12-14, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs in view Huang et al.('134), hereinafter referred to as Huang.

17.   Regarding claim 4, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein each IDE device can be utilized in hot

plugging. However, Huang discloses a system where a device can be utilized in hot

plugging(Column 3, Lines 1-3). Therefore it would have been obvious to use Huang's system of

hot plugging in the system of Jacobs, since this would allow devices to be connected and

disconnected without turning off the system.

18.   Regarding claim 5, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein one or more IDE devices can be

disconnected from the system while the system is operating. However, Huang discloses a

system, wherein one or more IDE devices can be disconnected from the system while the

system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use

Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be

connected and disconnected without turning off the system.

19.   Regarding claim 6, Jacobs discloses a device being plug and play(Column 3, Line 55)..

Jacobs does not specifically disclose a system, wherein at least one additional IDE device

coupled to a corresponding USB-to-IDE bridge can be connected to the USB controller while the

system is operating. However, Huang discloses a system, wherein at least one additional IDE

device coupled to a corresponding USB-to-IDE bridge can be connected to the USB controller

while the system is operating (Column 3, Lines 1-3). Therefore it would have been obvious to

use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to

be connected and disconnected without turning off the system.

20.   Regarding claim 9, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein at least one additional IDE device

coupled to a corresponding USB-to-IDE bridge can be connected to the USB hub while the

system is operating. However, Huang discloses a system, wherein at least one additional IDE device coupled to a corresponding USB-to-IDE bridge can be connected to the USB hub while the system is operating (Column 3, Lines 1-3). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

21.   Regarding claim 12, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a method, further comprising the steps of hot plugging one or more IDE devices to the USB-to-IDE bridges. However, Huang discloses a method where a device can be utilized in hot plugging(Column 3, Lines 1-3). Therefore it would have been obvious to use Huang's method of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

22.   Regarding claim 13, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a method, wherein one or more IDE devices can be disconnected from the system while the system is operating. However, Huang discloses a method, wherein one or more IDE devices can be disconnected from the system while the system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use Huang's method of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

23.   Regarding claim 14, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a method, wherein at least one additional IDE device coupled to a corresponding USB-to-IDE bridge can be connected to the USB controller while the system is operating. However, Huang discloses a method, wherein at least one additional IDE device coupled to a corresponding USB-to-IDE bridge can be connected to the USB controller while the system is operating (Column 3, Lines 1-3). Therefore it would have been obvious to

use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

24.   Regarding claim 20, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a system, wherein one or more IDE devices can be disconnected from the system while the system is operating. However, Huang discloses a system, wherein one or more IDE devices can be disconnected from the system while the system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

25.   Regarding claim 21, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a system, wherein at least one additional IDE device coupled to a corresponding USB-to-IDE bridge can be connected to the USB hub while the system is operating. However, Huang discloses a system, wherein at least one additional IDE device coupled to a corresponding USB-to-IDE bridge can be connected to the USB hub while the system is operating (Column 3, Lines 1-3). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

26.   Claims 8, 16-17, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs in view of the USB Specification 2.0, and in further view of Huang.

27.   Regarding claim 8, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a system, wherein one or more IDE devices can be disconnected from the system while the system is operating. However, Huang discloses a system, wherein one or more IDE devices can be disconnected from the system while the system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use

Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

28.   Regarding claim 16, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a method, further comprising the steps of disconnecting one or more of the IDE devices from the system while the system is operating. However, Huang discloses a method, wherein one or more IDE devices can be disconnected from the system while the system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

29.   Regarding claim 17, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a method, further comprising the steps of connecting at least one additional IDE device coupled to a corresponding USB-to-IDE bridge, to one of the hubs while the system is operating. Huang discloses a method, further comprising the steps of connecting at least one additional IDE device coupled to a corresponding USB-to-IDE bridge, to one of the hubs while the system is operating(Column 3, Lines 1-3). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

30.   Regarding claim 24, Jacobs discloses a device being plug and play(Column 3, Line 55). Jacobs does not specifically disclose a system, wherein one or more IDE devices can be disconnected from the system while the system is operating. However, Huang discloses a system, wherein one or more IDE devices can be disconnected from the system while the system is operating(Column 3, Lines 31-34). Therefore it would have been obvious to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

31.   Regarding claim 25, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein at least one additional IDE storage

device coupled to a corresponding USB-to-IDE bridge, can be connected to one of the hubs

while the system is operating. Huang discloses a system wherein at least one additional IDE

storage device coupled to a corresponding USB-to-IDE bridge, can be connected to one of the

hubs while the system is operating(Column 3, Lines 1-3). Therefore it would have been obvious

to use Huang's system of hot plugging in the system of Jacobs, since this would allow devices

to be connected and disconnected without turning off the system.

32.   Regarding claim 26, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein at least one additional IDE storage

device coupled to a corresponding USB-to-IDE bridge and associated hub, can be connected to

the USB controller while the system is operating. Huang discloses a system, wherein at least

one additional IDE storage device coupled to a corresponding USB-to-IDE bridge and

associated hub, can be connected to the USB controller while the system is operating (Column

3, Lines 1-3). Therefore it would have been obvious to use Huang's system of hot plugging in

the system of Jacobs, since this would allow devices to be connected and disconnected without

turning off the system.

33.   Regarding claim 27, Jacobs discloses a device being plug and play(Column 3, Line 55).

Jacobs does not specifically disclose a system, wherein at least one IDE storage device

coupled to a corresponding USB-to-IDE bridge and associated hub, can be disconnected to the

USB controller while the system is operating. Huang discloses a system, wherein at least one

IDE storage device coupled to a corresponding USB-to-IDE bridge and associated hub, can be

disconnected to the USB controller while the system is operating(Column 3, Lines 31-34).

Therefore it would have been obvious to use Huang's system of hot plugging in the system of

Jacobs, since this would allow devices to be connected and disconnected without turning off the system.

Conclusion

34.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art further discloses art related to interfacing non-USB devices in a USB system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nimesh G Patel whose telephone number is 703-305-7583. The examiner can normally be reached on M-F, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nimesh G Patel
Examiner
Art Unit 2112

NP
June 10, 2004